Statement of Basis

For Modification of
The Dangerous Waste Portion, Revision 8C, of the
Hanford Facility Resource Conservation and Recovery Act Permit
***For the Treatment, Storage, and Disposal of Dangerous Waste*, Part III,**
Operating Unit 10 (WA7890008967),
Waste Treatment and Immobilization Plant

June 2012

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Statement of Basis
For Modification of the Dangerous Waste Portion, Revision 8C, of the *Hanford Facility Resource Conservation and Recovery Act Permit For the Treatment, Storage, and Disposal of Dangerous Waste*, Part III, Operating Unit 10 (WA7890008967), Waste Treatment and Immobilization Plant

Permittees

United States Department of Energy
(Owner/Operator)
Office of River Protection
PO Box 450
Richland, Washington 99352

Bechtel National, Inc.
(Co-Operator for Waste Treatment Plant)
2435 Stevens Center Place
Richland, Washington 99354

The Washington State Department of Ecology (Ecology) has developed this Statement of Basis in accordance with the requirements of Washington Administrative Code (WAC) 173-303-840(2)(f)(iv). Its purpose is to present information on Ecology's decision to modify the *Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit, Dangerous Waste Portion, Revision 8C, for the Treatment, Storage, and Disposal of Dangerous Waste*, Part III, Operating Unit 10, Waste Treatment and Immobilization Plant (WTP), hereafter called the "WTP Permit."

This modification includes supporting technical information and engineering drawings for construction on the regulated portions of the WTP Pretreatment Facility (PTF), Low-Activity Waste (LAW) Facility, High-Level Waste (HLW) Facility, Laboratory (LAB) Facility, and Balance of Facilities (BOF). In addition, this modification incorporates format changes to the WTP Permit appendices and changes to supporting information. Ecology has elected to prepare a Statement of Basis, pursuant to WAC 173-303-840(2)(f)(iv) rather than a Fact Sheet. A Statement of Basis was prepared for previous major WTP Permit modifications.

This Statement of Basis is divided into four sections:

1.0 Hanford Facility Permit Background

2.0 The WTP Permitting Process

3.0 Procedures for Reaching a Final Decision on the Draft Permit Modification

4.0 Proposed Modifications to the WTP Permit

Tables submitted by the Permittees for incorporation into the WTP Permit are at the end of this document.

1.0 Hanford Facility Permit Background

Ecology initially issued the *Hanford Facility Dangerous Waste Permit for the Treatment, Storage, and Disposal of Dangerous Waste Revision 9, WA7890008967* (Site-wide Permit) in 1994. The Site-wide Permit provides standard and general facility conditions, as well as unit-specific conditions for the operation, closure, and post-closure care of mixed and dangerous waste Treatment Storage and Disposal (TSD) units at Hanford. Approximately 40 TSD units at Hanford are operating or closing under RCRA final status standards.

Conditions of the Site-wide Permit are presented in six parts:

- Standard Conditions (Part I)
- General Facility Conditions (Part II)
- Unit-Specific Conditions for Final Status Operating Units (Part III)
- Corrective Action for Past Practice Units (Part IV)
- Unit-Specific Conditions for Units Undergoing Closure (Part V)
- Unit-Specific Conditions for Units in Post-Closure (Part VI)

The WTP Permit is in Part III of the Site-wide Permit. The WTP Permit is normally modified as needed, typically one or more times a year to incorporate newly permitted units; reflect Class 1, 2, 3, and Agency-Initiated modifications; and include minor changes in grammar, consistency, and presentation. The Washington State Dangerous Waste Regulations in WAC 173-303-830 describe the types of changes or modifications that may be made to a Dangerous Waste Permit (DWP) issued by Ecology.

The WTP TSD Unit was added to the Unit-Specific Conditions for Final Status Operating Units (Part III) of the Site-wide Permit on September 25, 2002. The WTP Permit portion was effective on October 25, 2002. The WTP TSD Unit is currently being constructed under final status standards.

The entire *Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit, Dangerous Waste Portion for the Treatment, Storage, and Disposal of Dangerous Waste*, of which WTP is part, is open for public comment from May 1 to September 30, 2012. The version of the WTP Permit that is available as part of that comment period is up-to-date as of June 2011. However, because WTP construction must continue, we have another "active" version of the WTP Permit Ecology is modifying, which is what will be included in the comment period that runs June 4 through July 20, 2012.

2.0 The WTP Permitting Process

The permitting of the WTP TSD Unit is using a phased (or stepped) approach. The first phase was completed on September 25, 2002, with issuance of a final DWP allowing construction of the WTP LAW, PTF, HLW, LAB, and BOF facilities to commence. A WTP Interim Compliance Schedule for United States Department of Energy (USDOE) also provides additional detailed information to Ecology addressing the submittal of information necessary for construction support of the rest of the WTP TSD Unit and eventual operation.

The second phase of permitting is implementation of the compliance schedule, which requires design and other information to be submitted for Ecology approval before regulated portions of the WTP TSD Unit are constructed.

The third phase of permitting is implementation of the last portion of the compliance schedule, which requires updating portions of the DWP application and then modifying the WTP Permit prior to facility start-up operations. These portions of the WTP Permit are operational in nature and cannot be completed before the design is nearly complete (Contingency Plan, Closure Plan, and Training Plan).

At completion of the three phases of permitting, the WTP TSD Unit will comply with all the applicable requirements of WAC 173-303 and, after receiving written permission from Ecology, can begin treatment and storage of dangerous and mixed waste.

The design submittals (second permitting phase described above) were structured to allow the Permittees to provide design information in roughly the same order as the WTP facilities are constructed.

The design packages start at the lowest level of the facilities (below-grade levels) and are submitted for regulated areas of each level of the facility before construction begins. This process was adjusted for some design packages. When the facility process systems are installed on more than one level, then the design packages will address the associated components for each level. This prevents confusion caused by one process system description being segmented into multiple design packages.

The WTP Permit organizes design packages into three general groups by the type of regulated equipment:

1. Primary containment (for example, tanks, miscellaneous units [evaporators and melters], and containment buildings).
2. Secondary containment.
3. Other associated regulated equipment (for example, ancillary equipment, equipment associated with miscellaneous units, and instrumentation).

Using tank systems as an example, secondary containment packages include details of the design of secondary containment that must be in place in regulated areas when the floors and walls are built for that level of each facility (floor slope, sump location). The installation of tanks and other large equipment usually follows construction of the floors and walls. Therefore, a tank package on that level will be included in the WTP Permit before installation (for example, structural details for those tanks or miscellaneous units showing nozzle locations, unit volumes, and tank shell thickness).

The last equipment usually installed on a level for a tank system is the ancillary equipment (for example, piping, pumps, process instrumentation, and electrical equipment). Therefore, the ancillary equipment package that provides details for equipment on that level will be included in the WTP Permit before installation (for example, materials of construction and pump types and their operating limits).

With each WTP facility consisting of multiple levels, the total number of design packages is large. Of the estimated 180 total design packages, approximately 40 remain to be incorporated into the WTP Permit.

The primary containment, secondary containment, and the other associated regulated equipment packages for different levels require repetitive information submittals in each package. Using tank systems as an example, most tanks will use the same construction specifications. The WTP Permit allows the Permittees to reference the previously submitted design information. Therefore, some design packages consist mostly of references to information already provided.

Ecology is authorized, pursuant to WAC 173-303-830(4)(e), to grant a Temporary Authorization (TA) for the Permittees to start construction on a design package after Ecology approval before the draft permit modification process is complete. A Permittee is allowed to request a TA to implement a modification prior to public notice and comment, pursuant to WAC 173-303-830(4)(e)(ii)(A).

To issue a TA, Ecology must evaluate the modification against the criteria in WAC 173-303-830(4)(e)(ii)(A) and WAC 173-303-830(4)(e)(iii). The term of a TA is limited to 180 days with the potential for Ecology approval of two terms, with a maximum combined duration of 360 days provided the modification could be classified as a Class 2 or 3 modification for the activity covered in the TA (WAC 173-303-830(4)(e)(iv).

The purpose of a TA is to allow the timely implementation of a permit modification. Construction that takes place under a TA is at the Permittees' risk because public comment may require the Permittees to modify something that is already built. The submittal schedule developed by the Permittees will allow most design packages to undergo public comment and be incorporated into the WTP Permit prior to construction of those areas.

3.0 Procedures for Reaching a Final Decision on the Draft WTP Permit Modification

The Washington State Hazardous Waste Management Act, Chapter 70.105, Revised Code of Washington, and the rules declared in Chapter 173-303 of the WAC, regulate the management of dangerous waste in Washington State. In accordance with WAC 173-303-800, facilities that treat, store, and/or dispose of dangerous waste must obtain a permit for these activities.

As required by WAC 173-303-840(3)(d), draft permit modifications to the WTP Permit will have a 45-day public comment period. The public comment period for this proposed permit modification begins on June 4, 2012, and ends on July 20, 2012. All comments received during the public comment period will be considered and responded to before final decisions are made on the proposed modifications. Regulatory requirements for public notice and involvement on permit modifications are described in WAC 173-303-840(3) and (4).

Comments must be post-marked, received by e-mail, or hand-delivered no later than close of business (5:00 p.m. PST) July 20, 2012. Direct all written comments to:

Erika Holmes
Washington State Department of Ecology
3100 Port of Benton Blvd.
Richland, Washington 99354
E-mail address: hanford@ecy.wa.gov

Ecology will consider and respond to all written comments submitted by the deadline. Ecology will then make a final permit decision, which will become effective 30 days after Ecology provides notice of the decision to the Permittees and to all who commented. If Ecology's decision includes substantial changes to the WTP Permit because of public comment, we will initiate a new public comment period.

Ecology will provide a Response to Comments document and a notification of the final permit decision to the Permittees and to all members of the public who commented. Ecology's final permit decision may be appealed within 30 days after issuance of the final permit decision.

Copies of the WTP Permit, including the proposed permit modifications, are available for review at the Hanford Public Information Repositories listed below. For additional information, call the Hanford Cleanup Hotline toll-free at 800-321-2008 or email Hanford@ecy.wa.gov.

Hanford Public Information Repositories

Portland
Portland State University
Branford Price Millar Library
1875 Southwest Park Avenue
Portland, Oregon 97207
Contact: Liz Paulus 503-725-4542

Richland
Ecology Nuclear Waste Resource Center
3100 Port of Benton Boulevard
Richland, Washington 99354
Contact: Valarie Peery 509-372-7950

Seattle
University of Washington Suzzallo Library
PO Box 352900
Seattle, Washington 98195
Contact: David Maack 206-543-4664

U. S. Department of Energy
Administrative Record
2440 Stevens Drive, Room 1101
Richland, Washington 99354
Contact: Heather Childers 509-376-2530

Spokane
Gonzaga University Foley Center
502 East Boone Avenue
Spokane, Washington 99258
Contact: Linda Pierce 509-323-6110

U.S. Department of Energy Reading Room
2770 Crimson Way, Room 101L
Richland, Washington 99354
Contact: Janice Parthree 509-372-7443

This Statement of Basis and Focus Sheet for the proposed permit modification is also available online at www.ecy.wa.gov/programs/nwp/commentperiods.htm. If special accommodations are needed for public comment, please contact Erika Holmes, Department of Ecology, at 509-372-7880, or 360-407-6006 (TDD).

4.0 Proposed Modifications to the WTP Permit

This proposed permit modification contains the following packages. New or revised documents submitted with the package are listed below. See Tables 1 through 3 for the entire list of documents.

Package LAW-026B, Revision 0, *Low-Activity Waste Vitrification Facility Secondary Offgas/Vessel Vent Process System (LVP) HEPA Filter Housings*

This permit design package addresses the design of LAW secondary offgas/vessel vent process system (LVP) high-efficiency particulate air (HEPA) filter housing miscellaneous unit subsystems at the +48 foot elevation.

In the LVP system, melter offgas is combined with vessel vent offgas and heated in the melter offgas HEPA preheaters to raise the temperature of the offgas above the dew point. The heated offgas then passes through HEPA filters to remove particulates. The offgas is treated to remove mercury, iodine, and acid gasses (primarily hydrogen chloride and hydrogen fluoride) by activated carbon adsorption units. The offgas then passes through a recuperative heat exchanger, electric heater, and a thermal catalytic reduction unit reduces oxides of nitrogen to nitrogen and water using ammonia. The offgas is directed through the LAW melter offgas caustic scrubber to remove residual acid gasses (primarily sulfur oxides and carbon dioxide) and to provide final offgas cooling. Effluent from the LAW melter offgas caustic scrubber is recirculated through the LAW caustic collection tank (LVP-TK-00001). The treated offgas is discharged to the atmosphere through the LAW stack. Exhausters keep the offgas treatment units under negative pressure and provide the motive force for offgas to flow out of the LAW stack.

This permit package includes a final integrity assessment report signed by an independent, qualified, registered professional engineer (IQRPE) certifying the design of the LVP HEPA filter housings, a mechanical data sheet for the LVP safe change LVP HEPA filter housing, and change documents issued against the HEPA Filter Housing Mechanical Data Sheets.

The complete list of documents is located in Table 1.

Package LAW-027, Revision 0, Miscellaneous Unit Subsystem for Low-Activity Waste Facility Offgas/Vessel Vent Process (LVP) System (Activated Carbon Bed Adsorbers)

This permit design package affects the offgas/vessel vent process system. In the LVP system, melter secondary offgas is combined with vessel vent offgas and heated in the melter offgas HEPA preheaters to raise the temperature of the offgas above the dew point. The heated offgas then passes through HEPA filters to remove particulates. The offgas is treated to remove mercury, iodine, and acid gasses by activated carbon adsorption units. The offgas then passes through a recuperative heat exchanger, electric heater, thermal catalytic oxidation (TCO) unit, and selective catalytic reduction unit (SCR). The TCO oxidizes volatile organic compounds and carbon monoxide to water and carbon dioxide, and the SCR reduces oxides of nitrogen to nitrogen and water using ammonia. The offgas is directed through the LAW melter offgas caustic scrubber to remove residual acid gasses (primarily sulfur oxides and carbon dioxide) and to provide final offgas cooling. Effluent from the LAW melter offgas caustic scrubber is recirculated through the LAW caustic collection tank (LVP-TK-00001). The treated offgas is discharged to the atmosphere through the LAW stack.

Exhausters keep the offgas treatment units under negative pressure and provide the motive force for offgas to flow out of the LAW stack.

The design package contains one assessment report signed by an IQRPE. The scope of the integrity assessment includes two Activated Carbon Bed Adsorbers (LVP-ADBR-00001A and LVP-ADBR-00001B, also known as Offgas Mercury Adsorbers).

This permit package also contains revised piping and instrument diagrams (P&IDs), a mechanical data sheet, corrosion evaluation for the activated carbon bed adsorbers, and the system description for the LAW Primary Offgas Process (LOP) System and LVP system, and other documents to update the WTP Permit.

The complete list of documents is located in Table 2.

Package HLW-039, Revision 0, *Tank System Secondary Containment for HLW Autosampling System (ASX) Sampler Cabinets*

This permit design package addresses the tank system secondary containment design associated with HLW Autosampling System (ASX) sampler cabinets (ASX-SMPLR-00028, ASX-SAMPLR-00029, and ASX-SMPLR-00042). The autosamplers are located in Room H-0305A, H-0315, and H-0318, respectively, at elevation +37'- 0" of the HLW Facility.

The HLW ASX samplers contain both upper and lower secondary containment liners and leak detection systems. The sloped stainless steel upper containment liner is designed to divert a leak from the incoming sample feed and return lines to a sump, where a leak is detected. The sloped stainless steel lower containment area is designed to divert liquids to a sloped collection trough. The trough contains a removable weir that allows liquids to collect and activate the thermal level detection switch and alarms to indicate that a leak may have occurred.

This permit package includes an assessment report signed by an IQRPE certifying the structural integrity of the HLW ASX sampler cabinets.

The complete list of documents is located in Table 3.

CCN 239270 – Proposed Modifications to the Pre-Treatment In-Cell Handling (PIH) System

The proposed revisions concern the management of liquid wastes in the Pre-Treatment Facility (PTF) Hot Cell Containment Building (Room P-0123) and the PTF Maintenance Containment Building (Rooms PM0124, P-0121A, P-0122A, P-0123A, P-0124, P-0124A, P-0125, P-0125A, P-0128, and P-0128A). The changes include revisions to design requirements, extent of wall coatings and new miscellaneous units, and primary containment sumps to manage liquids.

Sections and tables within Chapter 4 and the Operating Unit Conditions of the WTP Permit will be affected by this update. Design changes will be included in a future submittal and will be provided to the public for review.

Pretreatment Hot Cell Containment Building (P-0123)

The Pretreatment Hot Cell Containment Building floor will provide secondary containment for tank systems located in the room, and for tank systems located in adjacent black cells.

The floor will also provide primary containment for spills that occur during jumper change-out and associated maintenance activities.

Jumpers are remotely removable sections of pipe, used to connect equipment located in areas where personnel are normally not allowed. Jumpers used to transfer liquids between equipment will be flushed with process water before the jumper is disconnected. After the process water flush, when the jumper is disconnected from a component, some residual flush water will spill from the jumper onto the floor. Maintenance activities using jumpers are expected to average two per week. The anticipated spill of flush water to the floor, per maintenance activity, is approximately 30 to 150 gallons. About once every three years, an equipment change-out will result in approximately 200 to 300 gallons of liquids spilled to the floor. The spills will be managed in a miscellaneous unit and the primary containment sumps. Spills will flow down the sloped floor into a primary containment sump for transfer to a Plant Wash and Disposal (PWD) system tank.

The hot cell floor will be lined with fully grouted stainless steel plate. To protect the stainless steel plate from damage, objects will not be staged directly on the floor. Objects will be staged on a platform.

The following changes are proposed for the Pretreatment Hot Cell Containment Building.

- Change the classification of three secondary containment sumps, PWD System Sumps PWD-SUMP-00026, PWD-SUMP-00028, and PWD-SUMP-00029 to primary containment sumps.
- Add a new miscellaneous unit to manage liquid waste on the hot cell floor.
- Because spray decontamination activities are not planned for the room, remove the requirement for the hot cell walls, above the stainless steel liner plate, to have an impervious coating.

Pretreatment Facility Remote Decontamination Maintenance Cave (P-0123A)

The floor of the PTF Facility Remote Decontamination Maintenance Cave will provide secondary containment for PIH System tank PIH-TK-00001, which is located in the cave. The room floor and portions of the walls will also provide primary containment for spray decontamination activities. The room floor and the walls, to approximately 17 feet in elevation, will be lined with fully grouted stainless steel plate. To protect the stainless steel plate from damage, objects will be staged on turntables or platforms.

The following changes are proposed for the PTF Remote Decontamination Maintenance Cave.

- Add a new miscellaneous unit. The Spray Decontamination and Sizing System, Miscellaneous Unit will be comprised of the following equipment: Spray Decontamination Turntable PIH-TTBL-00001, Remote Repair Turntable PIH-TTBL-00002, Size Reduction Table PIH-BENCH-00003, portable platform, and various tools consisting of decontamination spray lances, cutting tools, and a hydraulic shear. Remotely controlled decontamination, repair, and sizing activities may be performed at any of the stations or on any platform.

Decontamination activities may consist of any combination of swabs and sprays (plant water, carbon dioxide pellets, steam, and/or nitric acid). Spent decontamination solution will flow down the sloped floor into a primary containment sump, for transfer to a PWD system tank.

- Change the classification of PWD System Sumps PWD-SUMP-00032 and PWD-SUMP-00033 from secondary containment sumps to primary containment sumps, for transfer to a PWD system tank.
- The requirement for the remainder of the room walls, above the stainless steel plate, to have an impervious coating will be changed to coat only the wall area above the stainless steel plate to the bottom of the runway beam support (approximately 27 feet in elevation), for In-Cell Bridge Crane PIH-CRN-00004. The coating will be applied during construction and will be compatible with the decontamination solutions used in the room. Administrative controls will also be in place to minimize the over spray of decontamination solution to the walls above the stainless steel liner.

CCN 239273 – LAW and HLW Facility Crane Logic Descriptions for the WTP Dangerous Waste Permit – 24590-WTP-PER-ENS-11-001, Revision 0

This document describes the implementation of the reference permit conditions III.10.C.15.a.ii.A and III.10.C.15.a.ii.B for two LAW cranes and seven HLW cranes listed in permit condition III.10.C.15.a.i.B.

Permit condition III.10.C.15.a.ii.A specifies that the Permittees submit equipment instrument logic narrative description related to safe operation of equipment covered by III.10.C.15.a.i.B, including, but not limited to, allowed travel path for bridge and trolley, upper and lower hook travel limits, two-blocking prevention, hook load limits, wire rope misreeling, and overspeed protection (Compliance Schedule Item 38). Permit condition III.10.C.15.a.ii.B specifies that the Permittees submit descriptions of operational procedures demonstrating appropriate controls and practices are in place to ensure equipment covered by III.10.C.15.a.i.B will be operated in a safe and reliable manner that will not result in damage to regulated tank systems, miscellaneous unit systems, or canisters of vitrified waste (Compliance Schedule Item 39).

This document will be added to the WTP Permit in Appendix 7.13.

4.1 Incorporation of Class 1 and Class [1]1 WTP Permit Modifications

This proposed WTP Permit modification incorporates the Class 1 and Class [1]1 WTP Permit modifications listed below. These were previously approved by Ecology in accordance with WAC 173-303-830(4)(a) and are listed here as a courtesy.

- 24590-LAW-PCN-ENV-11-001, Class [1]1 Modification provides updated P&IDs for the LAW Melter Process System in Appendix 9.2.
- 24590-LAW-PCN-ENV-11-004, Class [1]1 Modification provides updated P&IDs for the LAW Concentrate Receipt Process System in Appendix 9.2.
- 24590-HLW-PCN-ENV-11-006, Class 1 Modification provides updated P&IDs for the HLW Radioactive Liquid Waste Disposal System in Appendix 10.2.

- 24590-HLW-PCN-ENV-12-001, Class [1]1 Modification provides updated Engineering Specification 24590-HLW-3PS-MQR0-T0002, for the HLW Canister Decontamination Handling System Canister Rinse Bogie in Appendix 10.7.

- 24590-PTF-PCN-ENV-10-030, Class [1]1 Modification provides updated mechanical data sheets for the Pretreatment Facility Waste Feed Evaporation Process and Treated LAW Evaporation Process condensers and reboilers in Appendix 8.6.

- 24590-PTF-PCN-ENV-10-036, Class [1]1 Modification provides updated mechanical data sheets and the equipment assembly drawings for the PTF Ultrafiltration Feed Preparation Vessels. It also provides four new equipment drawings in Appendix 8.6.

- 24590-PTF-PCN-ENV-11-007, Class [1]1 Modification provides updated P&IDs for the PTF Waste Feed Receipt Process System Vessels FRP-VSL-00002A, FRP-VSL-00002B, FRP-VSL-00002C, FRP-VSL-00002D, the associated Utility System Plant Service Air Rack PSD-RK-00014, and the Vessel Pulse Jet Mixers in Appendix 8.2.

- 24590-PTF-PCN-ENV-11-008, Class [1]1 Modification provides updated P&IDs for the PTF Cesium Nitric Acid Recovery Process Cesium Evaporator Separator Vessel. Updated equipment include the Cesium Evaporator Concentrate Reboiler; Ejectors and Condensers; Rectifier; Pump; and Filter in Appendix 8.2.

- 24590-PTF-PCN-ENV-11-010, Class [1]1 Modification provides updated P&IDs for the PTF pumps FRP-PMP-00001 and FRP-PMP-00002A and Utility System Plant Service Air Racks in Appendix 8.2.

- 24590-PTF-PCN-ENV-11-012, Class [1]1 Modification provides updated PTF Equipment Assembly Drawings for vessel HLP-VSL-00022 in Appendix 8.6.

- 24590-WTP-PCN-ENV-11-006, Class [1]1 Modification provides an updated Engineering Specification 24590-WTP-3PS-MWK0-T0001 for the HLW and LAW Activated Carbon Bed Adsorber in Appendix 7.7.

4.2 Supplemental Design Information

Tables 1 through 3 list the design information included in this proposed permit modification, and the proposed location in the WTP Permit. At issuance of the final WTP Permit decision, Ecology will specify where each drawing or report resides in the WTP Permit.

Paper copies of the page changes to the WTP Permit that result from this modification will be placed in the Administrative Record. To minimize paperwork, duplicate sets of drawings will not be issued to the Permittees at issuance of the final permit decision, unless drawing changes are made as a result of public comment.

The letter issuing the final WTP Permit decision to the Permittees and Hanford contractors will include the current WTP Permit with the modifications on a DVD.

4.3 Identifying Changes in this Proposed WTP Permit Modification

As the WTP TSD Unit is constructed, Ecology will modify the WTP Permit for many reasons, including to clarify text, add new conditions, delete existing conditions, correct errors, or add additional information. To communicate the changes, proposed permit modifications will include page changes showing all significant proposed changes to the WTP Permit. The text to be deleted will be struck-out with a single line, and the new text will be double-underlined. Only the text being changed in the current modification will be indicated by double-underlines and strikeouts.

Newly added documents and drawings are provided for review in this proposed permit modification. New document and drawing numbers and titles are shown in bold text in the affected appendix drawing lists.

At issuance of the WTP Permit modification, "clean" pages incorporating permit modifications will be issued to the Permittees and placed in the Administrative Record. All double-underlines and strikeouts will be removed. Documents and drawings listed in the appendices will not be bolded and will be incorporated by reference only.

In Ecology publication number 07-05-006, *Responsiveness Summary* (September 27, 2007), Ecology explained the reason for replacing permit version documents with source documents to which the WTP is constructed. Source documents are in a state of constant revision as design details are finalized and additional information is added to provide clarity and to correct typographical errors. Changes not yet incorporated into source documents are tracked by the Permittees using Document Change Notices (DCNs). In some cases, DCNs are issued at the time of Ecology's review. These are not provided for public comment but will appear in the next revision of the WTP Permit for review. Source documents have been replacing permit version documents since September 2007.

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Table 1 – Design Information Submitted by Permittees for Incorporation into the WTP Permit

Design Package No. LAW-026B, Revision 0
Miscellaneous Unit Subsystem for LAW Facility LVP System
(HEPA Filter Housings)

Table of Contents

For Incorporation into the WTP Permit

Engineering Document Title	Document Number	Revision	Permit Conditions	Included	Remarks
IQRPE Independent Assessment Report	IA-3006866-000 / 24590-CM-HC4-HXYG-00240-01-00007	0	III.10.H.5.c.i	Y	Incorporate IQRPE report into Appendix 9.11
Permit Drawings					
General Arrangement Plan	24590-LAW-P1-P01T-00005	4	III.10.H.5.c.ii	N	Included in Appendix 9.4
General Arrangement Section	24590-LAW-P1-P01T-00009	8	III.10.H.5.c.ii	N	Included in Appendix 9.4
Process Flow Diagram (PFD)	24590-LAW-M5-V17T-P0010 24590-LAW-M5N-V17T-00012 24590-LAW-M5N-V17T-00029	2	III.10.H.5.c.ii	N	Included in Appendix 9.1 DCNs issued since the last version of the WTP Permit document was provided in LAW-027

For Incorporation into the WTP Permit

Engineering Document Title	Document Number	Revision	Permit Conditions	Included	Remarks
Piping & Instrumentation Diagram (P&IDs)	24590-LAW-M6-LVP-00001001 24590-LAW-M6-LVP-00001002 24590-LAW-M6-LVP-00001003 24590-LAW-M6-LVP-00001004 24590-LAW-M6-LVP-00001005 24590-LAW-M6-LVP-00001006 24590-LAW-M6-LVP-00002001 24590-LAW-M6-LVP-00002002 24590-LAW-M6-LVP-00002003 24590-LAW-M6-LVP-00002004 24590-LAW-M6-LVP-00002005 24590-LAW-M6-LVP-00002006 24590-LAW-M6-LVP-00003001 24590-LAW-M6-LVP-00004001 24590-LAW-M6-LVP-00004002 24590-LAW-M6-LVP-00004003 24590-LAW-M6-LVP-00005001 24590-LAW-M6-LVP-00005002	0	III.10.H.5.c.ii	N	Included LAW-027 WTP Permit package for final approval
Mechanical Drawings					
HEPA Filter Housing	See Remarks	-	III.10.H.5.c.ii III.10.H.5.c.vi	N	See above P&ID 24590-LAW-M6-LVP-00001003, Revision 0, *LAW Secondary Offgas/Vessel Vent Process System HEPA Filters* for physical attributes
Engineering Specifications					
Engineering Specification for Nuclear Grade HEPA Filters (ASME AG-1 Section FK Filters)	24590-WTP-3PS-MKH0-T0002	3	III.10.H.5.c.ii III.10.H.5.c.iii III.10.H.5.c.vi	N	Included in Appendix 7.7

For Incorporation into the WTP Permit

Engineering Document Title	Document Number	Revision	Permit Conditions	Included	Remarks
Mechanical Data Sheets					
Safe Change HEPA Filter (Housing)	24590-LAW-MKD-LVP-00013	2	III.10.H.5.c.ii III.10.H.5.c.vi	Y	Incorporate mechanical data sheet for the Safe Change HEPA Filter Housing into Appendix 9.6 Technical Change Notice issued against datasheet 12/7/10 that changes design and operating pressures provided in milk run CCN 233560 Supplier Deviation Disposition Request issued against datasheet 2/3/10 determined that it is not practical to apply external nozzle load during seismic shaker table tests
Technical Change Notice issued for LVP Filter Housing Data Sheet	24590-QL-MRA-MKH0-00001-T0003	N/A		Y	
Supplier Deviation Disposition Request issued LVP Filter Housing Data Sheet	24590-WTP-SDDR-HV-10-00001	N/A		Y	
Corrosion Evaluations					
HEPA Filters (Housing)	N/A - See Remarks	-		N	Material selection information provided in Mechanical Data Sheet 24590-LAW-MKD-LVP-00013
LAW Vitrification Offgas System Bypass Analysis	24590-LAW-PER-PR-03-001	2	III.10.H.5.c.ix	N	Included in Appendix 9.18
Installation for Tank Systems and Miscellaneous Treatment Unit Systems	24590-WTP-PER-CON-02-001	6	III.10.H.5.c.x	N	Included in Appendix 7.12

For Incorporation into the Administrative Record

Engineering Document Title	Document Number	Revision	Permit Condition	Included	Remarks
Structural Support Calculations for Off Spec, Non-Standard or Field Fabricated Miscellaneous Treatment Subsystems	Not Applicable - See Remarks	-	III.10.H.5.c.iii	N	There are no Off Spec, Non-Standard or Field Fabricated Miscellaneous Treatment Subsystems in the LAW Facility
System Description for LOP and LVP: LAW Melter Offgas	24590-LAW-3YD-LOP-00001	3	III.10.H.5.c.viii	N	Included in LAW-027 WTP Permit package
Material and Energy Balance	24590-WTP-RPT-PT-02-005	6	III.10.H.5.c.xi	N	ORP letter 11-ESQ-224 dated 10/25/11, Submittal of Mass and Energy Balance Information (CCN 241137)
	24590-WTP-RPT-PET-10-022	0			
	24590-WTP-MRR-PET-10-010	0			
Control of Toxic Vapors and Emissions from WTP Tank Systems and Miscellaneous Treatment Unit Systems	24590-WTP-PER-PR-03-002	3	III.10.H.5.c.xi	N	ORP letter 07-ESQ-149 dated 8/31/07 (CCN 161097)
Prevention of Hydrogen Accumulation in WTP Tank Systems and Miscellaneous Treatment Unit Systems	24590-WTP-PER-PR-03-001	1	III.10.H.5.c.xii	N	ORP letter 03-ED-130 dated 8/22/2003 submitted with LAW-029 WTP Permit package (CCN 067539)

Table 2 – Design Information Submitted by Permittees for Inclusion into the WTP Permit

Design Package No. LAW-027, Revision 0
Miscellaneous Unit Subsystem for LAW Facility LVP System
(Activated Carbon Bed Adsorbers)
Table of Contents

For Incorporation into the WTP Permit

Engineering Document Title	Document Number	Revision	Permit Conditions	Included	Remarks
IQRPE Independent Assessment Report	24590-CM-HC4-HXYG-00240-01-00004	00A	III.10.H.5.c.i	Y	Incorporate IQRPE report into Appendix 9.11
Permit Drawings					
General Arrangement Plan at El. 48 ft	24590-LAW-P1-P01T-00005	5	III.10.H.5.c.ii	N	In Appendix 9.4
General Arrangement Sections	24590-LAW-P1-P01T-00007	8			
	24590-LAW-P1-P01T-00011	7		N	In Appendix 9.4
PFDs	24590-LAW-M5-V17T-P0011	1	III.10.H.5.c.ii	N	Update change documents in Appendix 9.1 issued since the last version of the WTP Permit PFDs was incorporated.
	24590-LAW-M5N-V17T-00012	N/A		Y	
	24590-LAW-M5N-V17T-00019	N/A		Y	
	24590-LAW-M5N-V17T-00023	N/A		Y	
	24590-LAW-M5N-V17T-00029	N/A		Y	
P&IDs	24590-LAW-M6-LVP-00001001	0	III.10.H.5.c.ii	Y	Update P&IDs in Appendix 9.2
	24590-LAW-M6-LVP-00001002	0		Y	
	24590-LAW-M6-LVP-00001003	0		Y	
	24590-LAW-M6-LVP-00001004	0		Y	
	24590-LAW-M6-LVP-00001005	0		Y	
	24590-LAW-M6-LVP-00001006	0		Y	
	24590-LAW-M6-LVP-00002001	0		Y	
	24590-LAW-M6-LVP-00002002	0		Y	
	24590-LAW-M6-LVP-00002003	0		Y	
	24590-LAW-M6-LVP-00002004	0		Y	
	24590-LAW-M6-LVP-00002005	0		Y	
	24590-LAW-M6-LVP-00002006	0		Y	
	24590-LAW-M6-LVP-00003001	0		Y	
	24590-LAW-M6-LVP-00004001	0		Y	
	24590-LAW-M6-LVP-00004002	0		Y	
	24590-LAW-M6-LVP-00004003	0		Y	
	24590-LAW-M6-LVP-00005001	0		Y	
	24590-LAW-M6-LVP-00005002	0		Y	

For Incorporation into the WTP Permit

Engineering Document Title	Document Number	Revision	Permit Conditions	Included	Remarks
Mechanical Drawing for Activated Carbon Bed Adsorber	N/A - See Remarks	-	III.10.H.5.c.ii III.10.H.5.c.vi	Y (see remarks)	Sketch #1 on mechanical data sheet for Activated Carbon Bed Adsorber (24590-WTP-3PS-MVD-LVP-00003, Revision 6
Engineering Specifications					
Positive Material Identification	24590-WTP-3PS-G000-T0002	8	III.10.H.5.c.ii III.10.H.5.c.iii III.10.H.5.c.vi	N	In Appendix 7.7 in 24590-WTP-PCN-ENV-10-003. Approved 3/3/11
Pressure Vessel Fatigue Analysis	24590-WTP-3PS-MV00-T0003	3		N	In Appendix 7.7 in 24590-WTP-PCN-ENV-10-003. Approved 3/3/11
Pressure Vessel Design and Fabrication	24590-WTP-3PS-MV00-T0001	4	III.10.H.5.c.ii III.10.H.5.c.iii III.10.H.5.c.vi	N	In Appendix 7.7 in 24590-WTP-PCN-ENV-10-003. Approved 3/3/11
Seismic Qualification Criteria for Pressure Vessels	24590-WTP-3PS-MV00-T0002	3			In Appendix 7.7 in 24590-WTP-PCN-ENV-10-003. Approved 3/3/11
Engineering Specification for Activated Carbon Bed Adsorbers	24590-WTP-3PS-MWK0-T0001	5	III.10.H.5.c.ii III.10.H.5.c.iii III.10.H.5.c.vi	N	In Appendix 7.7 in PCN 24590-WTP-PCN-ENV-11-006. Approved 4/10/12
Mechanical Data Sheet for Offgas Mercury Adsorber (Carbon Bed)	24590-LAW-MVD-LVP-00003	6	III.10.H.5.c.ii III.10.H.5.c.iii III.10.H.5.c.vi	Y	Incorporate mechanical data sheet for Offgas Mercury Adsorber (Carbon Bed) into Appendix 9.6
Secondary Containment Design	24590-WTP-PER-CSA-02-001	10	III.10.H.5.c.ii III.10.H.5.c.iii	N	In Appendix 7.5 in 24590-WTP-PCN-ENV-11-008. Approved 11/3/11
Underground Pipe Protection	Not applicable	-	III.10.H.5.c.iv	N	Not applicable. There are no underground pipes in the LAW facility El. 3 ft and above
Corrosion Evaluation for the Activated Carbon Bed Adsorber	24590-LAW-N1D-LVP-00004	2		Y	Incorporate Corrosion Evaluation for the Activated Carbon Bed Adsorber into Appendix 9.9
LAW Vitrification Offgas System Bypass Analysis	24590-LAW-PER-PR-03-001	2	III.10.H.5.c.ix	N	In Appendix 9.18
Installation of Tank Systems and Miscellaneous Unit Systems	24590-WTP-PER-CON-02-001	6	III.10.H.5.c.x	N	In Appendix 7.12

For Incorporation into the Administrative Record

Engineering Document Title	Document Number	Revision	Permit Condition	Included	Remarks
Structural Support Calculations for Off Spec, Non-Standard or Field Fabricated Miscellaneous Treatment Subsystems	Not Applicable - See Remarks	-	III.10.H.5.c.iii	N	Not applicable. There are no Off Spec, Non-Standard or Field Fabricated Miscellaneous Treatment Subsystems in the LAW Facility
System Description for LOP and LVP: LAW Melter Offgas	24590-LAW-3YD-LOP-00001	3	III.10.H.5.c.vii	Y	Incorporate into the Administrative Record
System Description Change Notice	24590-LAW-3YN-LOP-00011	N/A	III.10.H.5.c.vii	Y	Incorporate SDCN into the Administrative Record
Material and Energy Balance	24590-WTP-RPT-PT-02-005	6	III.10.H.5.c.viii	N	In Administrative Record Office of River Protection (ORP) letter 11-ESQ-224 dated 10/25/11, Submittal of Mass and Energy Balance Information (CCN 241137)
	24590-WTP-RPT-PET-10-022	0			
	24590-WTP-MRR-PET-10-010	0			
Toxic Vapors and Emissions from WTP Tank Systems and Miscellaneous Treatment Unit Systems	24590-WTP-PER-PR-03-002	3	III.10.H.5.c.xi	N	In Administrative Record (CCN 161097) Class 1' modification to Administrative Record
Prevention of Hydrogen Accumulation in WTP Tank Systems and Miscellaneous Treatment Unit Systems	24590-WTP-PER-PR-03-001	1	III.10.H.5.c.xii	N	In Administrative Record (CCN 078481) as part of approval of LAW-029

Table 3 – Design Information Submitted by Permittees for Inclusion into the WTP Permit

Permit Design Package No. HLW-039, Revision 0
Tank System Secondary Containment for HLW ASX Samplers
Table of Contents

For Incorporation into the WTP Permit

Engineering Document Title	Document Number	Revision	Permit Condition	Included	Remarks
IQRPE Independent Assessment Report	IA-3006928-000/24590-CM-HC4-HXYG-00240-02-00003	0	III.10.E.9.b.i	Y	Include in Operating Unit 10 Appendix 10.11
General Arrangement Plan	24590-HLW-P1-P01T-00004	7	III.10.E.9.b.ii	N	Included in Operating Unit 10 Appendix 10.4
Secondary Containment Design	24590-WTP-PER-CSA-02-001	10	III.10.E.9.b.ii III.10.E.9.b.iii	N	Included in Operating Unit 10 Appendix 7.5
Underground Pipe Protection	N/A	-	III.10.E.9.b.iv	N/A	Not Applicable for the ASX system
Material Selections for Building Secondary Containment/Leak Detection	24590-WTP-PER-M-02-001	3	III.10.E.9.b.v	N	Included in Operating Unit 10 Appendix 7.9
Installation of Tank Systems and Miscellaneous Unit Systems	24590-WTP-PER-CON-02-001	6	III.10.E.9.b.vi	N	Included in Operating Unit 10 Appendix 7.12
Leak Detection in Secondary Containment Systems	24590-WTP-PER-J-02-002	4	III.10.E.9.b.ii III.10.E.9.b.v	N	Included in Operating Unit 10 Appendix 7.5
Description of Access for Conducting Integrity Assessments	24590-WTP-PER-M-02-005	1	III.10.E.9.b.ix	N	Included in Operating Unit 10 Appendix 7.15
Integrity Assessment Program and Schedule for DWP Regulated Equipment in the PTF and HLW Vitrification Facility	24590-WTP-PER-M-08-002	0	III.10.E.9.b	N	Included in Operating Unit 10 Appendix 7.15

For Incorporation into the Administrative Record

Engineering Document Title	Document Number	Revision	Permit Condition	Included	Remarks
Prevention of Hydrogen Accumulation in Tank Systems and Miscellaneous Treatment Unit Systems	24590-WTP-PER-PR-03-001	1	III.10.E.9.b.viii	N	Previously provided with LAW-029, Revision 0 (CCN 067539) dated 8/26/2003, to document compliance with DWP Condition. Note: Revisions to the WTP HPAV strategy are in progress and will require future re-submittal of this document.